

CURRICULUM VITAE: H. JOSEPH NEWTON

Address:

Department of Statistics
Texas A&M University
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DATE AND PLACE OF BIRTH:

June 16, 1949, Oneida, New York

EDUCATION:

1971 B.S., Mathematics, Niagara University
1972 M.A., Statistics, SUNY/Buffalo
1975 Ph.D., Statistical Sciences, SUNY/Buffalo (Dissertation: "The Efficient Estimation of Stationary Multiple Time Series Mixed Models: Theory and Algorithms," E. Parzen director).

ACADEMIC APPOINTMENTS:

2015— Senior Professor of Statistics, Texas A&M University of Statistics, Texas A&M University
2002–2015 Dean, College of Science, and Professor of Statistics, Texas A&M University
2001–2002 Interim Dean, College of Science, and Professor of Statistics, Texas A&M University
1998–2000 Executive Associate Dean, College of Science, and Professor of Statistics, Texas A&M University
1990–97 Professor and Head of Statistics, Texas A&M University
1989–90 Visiting Professor of Statistics, Carnegie–Mellon University
1988– Professor of Statistics, Texas A&M University
1983–88 Associate Professor of Statistics, Texas A&M University
1978–83 Assistant Professor of Statistics, Texas A&M University
1977–78 Visiting Assistant Professor of Statistics, SUNY/Buffalo
1975–77 Research Assistant Professor of Statistical Science and Technical Specialist Department of Surgery, SUNY/Buffalo

AWARDS AND HONORS:

2013 Elected Fellow of AAAS
1995 Elected Fellow of American Statistical Association.
1986, 1998 Association of Former Students Distinguished Teaching Award for College of Science, Texas A&M University.

RESEARCH INTERESTS

Development of statistical theory, algorithms and computer software for analyzing time series and spatial data, particularly on graphics workstations. Analysis of animal hormones observed over time and geophysical features observed spatially. Develop procedures for analyzing long repeated measures designs. Software for statistics education.

PROFESSIONAL SERVICE

- Member, Board of Directors of Giant Magellan Telescope Project, 2013–
- American Co-Editor of *Computational Statistics* 1998–2006
- Editor, *Stata Journal* 2001–
- Editor, *Stata Technical Bulletin* 1996–2001
- Associate Editor of *Journal of Computational and Graphical Statistics* 1991–1994
- Editor of “New Developments in Statistical Computing” section of *American Statistician* 1987–
- Associate Editor of *Journal of the American Statistical Association* 1985–1986
- President of the board of the *Interface Foundation of North America* and host and organizer of 1992 Interface Symposium.
- Refereeing for *Annals of Statistics*, *JASA*, *American Statistician*, *Science*, *Communications in Statistics*, *SIAM Journal of Scientific and Statistical Computing*, *Journal of Econometrics*, *National Science Foundation*, *Biometrika*, *Transactions in Management Science*, *Journal of Forecasting*, *Journal of Time Series*, *Statistica Sinica*.
- Member of organizing committee for Multivariate Time Series Conference held June 29 to July 5, 1991 at University of Washington, Seattle.

PROFESSIONAL SOCIETY MEMBERSHIPS

American Statistical Society

Association of Computing Machinery

Institute of Mathematical Statistics

BIBLIOGRAPHY**Books**

- Newton, H. J. (1988). “TIMESLAB: A Time Series Analysis Laboratory.” Wadsworth & Brooks/Cole, Pacific Grove, California.
- Newton, H. J. and J.L. Harvill (1997). “StatConcepts: A Visual Tour of Statistical Ideas.” Duxbury Press, Pacific Grove, California.

Papers

- [1] Newton, H. J. (1978). The information matrix of the parameters of multiple mixed time series, *Journal of Multivariate Analysis*, **8**, 317–323.
- [2] Parzen, E. and Newton, H. J. (1980). Multiple time series modeling-II. *Multivariate Analysis V*, V. P. R. Krishnaiah, ed., North Holland.
- [3] Newton, H. J. (1980). Efficient estimation of multivariate moving average autocovariances. *Biometrika*, **67**, 227–231.
- [4] Rahe, C. H., Owens, R. E., Fleeger, J. L., Newton, H. J., and Harms, P. G. (1980). Dependence of the pattern of circulating luteinizing hormone upon the period of the estrous cycle. *Endocrinology*, **107**, 498–530.
- [5] Newton, H. J. and Pagano, M. (1981). On the stationarity of multiple autoregressive approximants: theory and algorithms. *Journal of Statistical Computation and Simulation*, **13**, 195–208.
- [6] Newton, H. J. (1981). On some numerical properties of ARMA parameter estimation procedures. *Computer Science and Statistics: Proceedings of the 13th Symposium on the Interface*, W. Eddy, ed., Springer-Verlag, 172–177.
- [7] Newton, H. J. (1982). On using periodic autoregressions for multiple spectral estimation. *Technometrics*, **24**, 109–116.
- [8] Makridakis, S., Andersen, A., Carbone, R., Fildes, R., Hibon, M., Lewandowski, R., Newton, J., Parzen, E., and Winkler, R. (1982). The accuracy of extrapolation (time series) methods: results of a forecasting competition. *Journal of Forecasting*, **1**, 111–153.
- [9] Newton, H. J. and Pagano, M. (1983). Finite memory prediction of covariance stationary time series. *SIAM Journal of Scientific and Statistical Computing*, **4**, 330–339.
- [10] Newton, H. J. and Pagano, M. (1983). A method for determining periods in time series. *Journal of American Statistical Association*, **78**, 152–157.
- [11] Spector, P. C. and Newton, H. J. (1983). The bias of the MLE of Box’s degrees of freedom correction factor in ANOVA. *Communications in Statistics-Theory and Methods*, **11**, 2937–2945.
- [12] Newton, H. J. and Pagano, M. (1983). Computing for autoregressions. *Computer Science and Statistics: Proceedings of the 15th Symposium on the Interface*, J. Gentle, ed., North-Holland, 113–118.
- [13] Newton, H. J. (1983). What should your time series analysis program do? *Computer Science and Statistics: Proceedings of the 15th Symposium on the Interface*, J. Gentle, ed., North-Holland, 125–130.
- [14] Parzen, E. and Newton, H. J. (1983). How to learn from the M-Competition. *Journal of Forecasting*, **2**, 292–293.
- [15] Newton, H. J. and Parzen, E. (1984). Forecasting and time series model types of economic time series. In “Major Time Series Methods and Their Relative Accuracy”, by S. Makridakis, et. al., Wiley, 267–287.
- [16] Newton, H. J. and Pagano, M. (1984). Asymptotic confidence bands for autoregressive spectra. *Biometrika*, **71**, 197–202.
- [17] Newton, H. J. (1985). Comment on “Nonnegative definiteness of the sample autocovariance function,” *American Statistician*, **39**, 237.
- [18] Cummins, H, Powell, E., Newton, H. J., Stanton, R. J., and Staff, G. (1986). Assessing transportation by the covariance of species with comment on contagious and random distributions. *Lethaia*, **19**, 1–22.
- [19] Newton, H. J. (1986). Behavior of sample means and parametric time series estimation. *Proceedings of the 1986 Winter Simulation Conference*, 343–350.

- [20] Newton, H. J. (1986). Creating statistical software on Personal Computers. *Proceedings of the Statistical Computing Section of the American Statistical Association*, 73–77.
- [22] Newton, H. J. (1987). TIMESLAB: A time series analysis laboratory. *Proceedings of the Business and Economics Section of the American Statistical Association*, 25–32.
- [23] Ensor, K. and Newton, H. J. (1988). The effect of order estimation on estimating the peak frequency of an autoregressive spectral density. *Biometrika*, **75**, 587–589.
- [24] Ensor, K. and Newton, H. J. (1990). A recursive in order algorithm for least squares estimates of an autoregressive process. *Journal of Statistical Computation and Simulation*, **37**, 115–126.
- [25] Newton, H. J. (1990). Review of “Computation for the Analysis of Designed Experiments,” *Journal of the American Statistical Association*, **85**, 1178–1179.
- [26] Newton, H. J., North, G. R., and Crowley, T. J. (1991). Forecasting global ice volume. *Journal of Time Series*, **12**, 255–265.
- [27] Newton, H.J. (1991). Review of S-Plus for Unix and DOS, *Chemometrics and Intelligent Laboratory Systems*, **11**, 255–258.
- [28] Newton, H.J. (1993). Graphics for Time Series Analysis. In *Handbook of Statistics, Vol 9.*, Ed. C.R. Rao, North-Holland, Amsterdam, 803–823.
- [29] Ha, E. and Newton, H.J. (1993). The Bias of Estimators of Causal Spatial Autoregressive Processes, *Biometrika*, **80**, 242–245.
- [30] Harvill, Jane L. and Newton, H. Joseph (1995). Saddlepoint Approximations for the difference of order statistics, *Biometrika*, **82**, 226–231.
- [31] Harvill, J.L. and Newton, H.J. (1995). Using symbolic math to evaluate saddlepoint approximations for the difference of order statistics, *Communications in Statistics: Simulation and Computation*, **24**, No. **3**, 781–791.
- [32] Carroll, R.J., Chen, R., George, E., Li, T.H., Newton, H.J., Schmiediche, H., and Wang, N. (1997). Trends in ozone exposure in Harris County, Texas, *Journal of American Statistical Association*, **92**, 392–404.
- [33] Newton, H.J. (1999). Discussion of “Undergraduate statistics education: what should change?”. *American Statistician*.
- [34] Hrafnkelsson, B. and Newton, H. J. (2000). Asymptotic simultaneous confidence intervals for vector autoregressive spectra, *Biometrika*, **87**, 173–182.

FUNDING

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| 1978–1990 | Research Associate on ONR Grants (E. Parzen, Principle Investigator). |
| 1991–1994 | Department of Energy Grant to study Global Warming (G. North of Texas A&M Meteorology Department, Principle Investigator). |
| 1994 | Texas Natural Resource Conservation Commission Contract to study trends in ozone levels in Harris County, Texas (total contract, \$60,000). |
| 1996–97 | Texas General Land Office to study changes in tidal constituents in the Gulf of Mexico. |

INVITED TALKS (last ten years)

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| 1990 | Moving order statistics, Carnegie-Mellon. |
| 1990 | Forecasting global ice volume, Rutgers and NYU. |
| 1991 | Forecasting global ice volume, University of Texas. |
| 1991 | Modeling and visualizing global temperature data, Seattle. |

- 1993 Graphical and numerical descriptions of vector and space time processes, Waterloo.
- 1994 Statistics education in the computer age, Interface '94, Raleigh.
- 1994 Graphs and Models for Global Climatological Data, Southern Regional Conference on Statistics, Williamsburg.
- 1995 A computer laboratory for large undergraduate statistics courses, Interface '95, Pittsburgh.
- 1996 Ozone exposure and population density in Harris County, Texas, Rice University.
- 1996 A computer laboratory for large undergraduate statistics courses, Southern Regional Conference on Statistics, LeGray, Arkansas.
- 1996 Trends in Ozone Exposure in Harris County, Texas, JASA Applications Editor's Invited Talk, Joint Statistical Meetings, Chicago.
- 1997 StatConcepts: A Visual Tour of Statistical Ideas, Trinity University.
- 1998 Discussion of "Undergraduate Statistics Education: What Should Change?", Joint Statistical Meetings, Dallas.

TEACHING ACTIVITIES

Ph.D. Dissertations Directed

- 1982 Philip C. Spector, 'Analysis of Long Repeated Measures Designs.' Currently applications manager and consultant at the Statistical Computing Facility and lecturer in the department of statistics at University of California, Berkeley.
- 1986 Gary Stevens, 'Analysis of Spatial Time Series.' Currently at Sterling Drug, Rensselaer, New York.
- 1986 Kathryn B. Ensor, 'Some Results in Autoregressive Modeling.' Currently Professor and Chairman of Department of Statistics, Rice University.
- 1992 James Hardin, 'The Statistical Analysis of Global Climate Change Studies.' Currently a lecturer and director of distance education, Department of Statistics, Texas A&M.
- 1992 Eunho Ha, 'Analysis of Spatial Autoregressive Processes and Rain Rate Estimation.' Currently assistant professor of statistics, Pusan University, Korea.
- 1993 Henrik Schmiediche, 'The Visualization of Multiple Time Series Data and Statistics.' Currently Lecturer and Director of Computing Operations, Department of Statistics, Texas A&M.
- 1994 Jane Harvill, 'A Bispectral-Based Test for Gaussianity and Linearity of a Time Series.' Currently assistant professor of statistics, Mississippi State University.
- 1995 David Whiting, 'Properties of the Estimated Best Linear Unbiased Predictor (EBLUP) Under Infil Asymptotics in the Spatial Linear Model.' Currently assistant professor of statistics, BYU.
- 1998 S.J. Kim, 'Generating Geographic Time Series and a Combined Rainfall-Soil Moisture Model and its Statistics.' Currently at PPD Pharmaco, Austin, TX.
- 1999 B. Hrafinkelsson, 'A New Method of Finding Principal Component Time Series Using Vector and Periodic Autoregressive Spectral Estimation.' Starting a two-year postdoc at Ohio State University in Fall, 1999.

Current Graduate Student Degree Committees

Statistics Students Committee Member: 5

Non-Statistics Students Committee Member: 5

Curriculum Contributions

Development of two semester computational statistics sequence

Development of time series methods course

Develop software and text for STAT 301, 302, 303

Courses Taught

Course	Description	Times Taught
STAT 211	Undergrad Stat Methods for Physical Scientists	7
STAT 212	Sequel to Stat 211	2
STAT 302	Undergrad Stat Methods for Medical Students	1
STAT 303	Undergrad Stat Methods for Social Scientists	2
STAT 601	Graduate Stat Methods for Physical Scientists	7
STAT 604	Computational Statistics, I	20
STAT 605	Computational Statistics, II	4
STAT 611	Theory of Statistics	1
STAT 615	Stochastic Processes	2
STAT 626	Time Series Methods	22
STAT 651	Graduate Stat Methods for Social Scientists	8
STAT 673	Theory of Time Series I	1
STAT 674	Theory of Time Series II	1